

Work Order ID **91369**

91369

Rev A 5/31/12/23
PRELIMINARY ISSUE

Page 1

Item ID: D4653-9
Revision ID: PRELIM
Item Name: Fitting, Small

Accept

N900040100

Setup Start ***NS1***

Stop ***NS2***

Start Date: 05/10/2012 Start Qty: 6.00
Required Date: 19/10/2012 Req'd Qty: 6.00

B
B

12 J

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12-10-04

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D4653

pa6

A

100

0.00

12

6

100

Hardinge CNC LATHE SMALL

Doosan

Memo

0.00

Doosan Lathe

Machine as per folio FB118
FOLIO REV: WJA
DWG REV: PA6

13
2-89

12/10/10

12

6

P/O
✓

Deburr

110

0.00

12

6

110

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

13
2-89

12/10/10

12

6

**MATERIAL CERTIFICATION
REQ'D UPON DELIVERY**
02/10/11

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: 13/6/12 Date: 13/6/12QA Closed: cl Date: 13/5/12

Work Order: <u>91369</u>				DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. <u>D4653-9</u>				Rework <input type="checkbox"/>		Skid-tube <input type="checkbox"/>		Crosstube <input type="checkbox"/>		Water Jet <input type="checkbox"/>		Engineering <input type="checkbox"/>	
NCR No. <u>13-2628</u>				Scrap <input checked="" type="checkbox"/>		Machining <input checked="" type="checkbox"/>		Small Fab <input type="checkbox"/>		Prod. Eng. Coord. <input type="checkbox"/>		Quality <input type="checkbox"/>	
				Use-as-is <input type="checkbox"/>		Thermoforming <input type="checkbox"/>		Finishing <input type="checkbox"/>		Rec/Store/Packaging <input type="checkbox"/>		Other <input type="checkbox"/>	
				Work Order Update <input type="checkbox"/>		Large Fab <input type="checkbox"/>		Composite <input type="checkbox"/>		Supplier <input type="checkbox"/>			

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input checked="" type="checkbox"/>	<u>12/10/10</u>	<u>100</u>	<u>6</u>	- Drawing not clear Missing .745 dimension QT(6) R.C. 10A/operation error	<u>S</u> <u>13/8/14</u> <u>Q2242</u>	part scrap and replace with the same batch # part Destroyed 20.21 12/11/20	<u>12/10/10</u>	<u>Smb</u> <u>12-10-10</u>	<u>S</u> <u>13/6/14</u> <u>Q2242</u>
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY			
Landing Gear		General	
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misabeled	<input type="checkbox"/> Positioned Wrong
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset	<input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Torque Waves in Extrusion	<input checked="" type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Weld
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Wrong Stock Pulled
			<input type="checkbox"/> Other

Work Order ID 91369

91369

Page 2

Item ID: D4653-9
Revision ID: PRELIM
Item Name: Fitting. Small

Accept

N9000040100

Setup Start ***NS1***
Stop ***NS2***

Start Date: 05/10/2012 Start Qty: 6.00
Required Date: 19/10/2012 Req'd Qty: 6.00

6
6

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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120 QC8- Inspect parts - second check

0.00 *Smb*
0.00 *12-10-10*

120

QC Memo
Quality Control

12

130 Identify as per dwg & Stock Location: _____

0.00

130

Packaging Memo

0.00

Packaging *used in 91367.*

12x

SP
135-15

140 QC21- Final Inspection - Work Order Release

0.00

140

QC Memo
Quality Control

0.00

POSITIVE RECALL

EFFECTIVE *12-10-04* AUTH *h*

RELEASED *S* DATE *13/07/23*

to Rev A Dwg.

EMF
12-10-11

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY				
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	

Picklist Print

October-05-12 8:02:31 AM

Page 1

Work Order ID: 91369

91369

Parent Item: D4653-9

D4653-9

Parent Item Name: Fitting, Small

Start Date: 05/10/2012

Required Date: 19/10/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 12-06-11 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M6061T6R1.000 Purchased No

f 64.6230

0.75

M6061T6R1 000

**

ROUND BAR 1.00"

5/12/10/10

Location

Loc Qty

Loc Code

013

4.82

121192

4.82

MAT008

24

121070

24

MAT013

35.803

116406

13.103

118271

5.7

122521

17

Just this batch only.
6061T R. 875

116808

~~1 lot~~ 3 RY

NCR: Yes / No

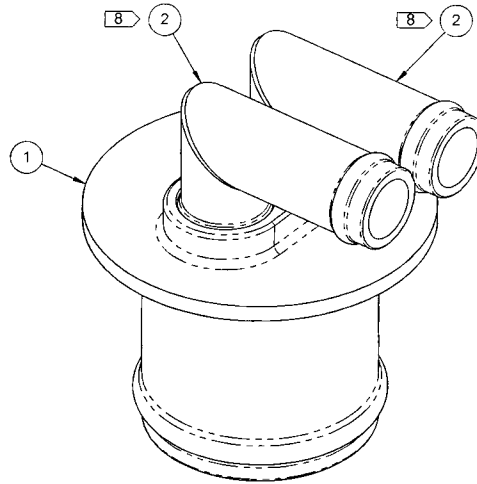
WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
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Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4653-041	VENT MANIFOLD ASSEMBLY
1	1	D4653-3	COLLAR
2	2	D4653-045	FITTING ASSEMBLY
3	A/R	LUBRICANT	ASSEMBLY FLUID #1



D4653-041 VENT MANIFOLD ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.35 lbs
- 8) APPLY A LAYER OF ASSEMBLY FLUID #1 OR EQUIVALENT IN O-RING PRIOR ASSEMBLY D4653-045

PRELIMINARY ISSUE

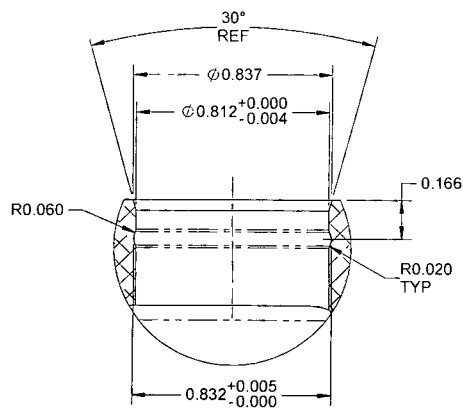
12.09.24

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

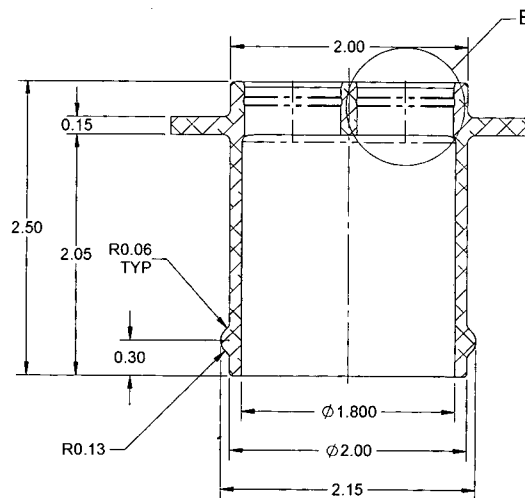
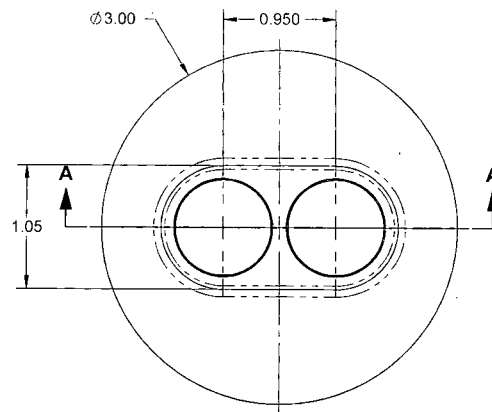
WITHOUT NOTICE
WORK ORDER

NO. 91369 MLJ
12-10-04

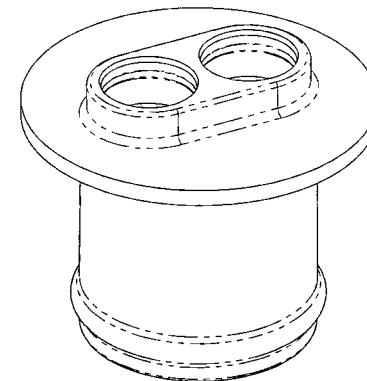
PA6	COMBINED D4653-1/-5 INTO D4653-3 AS A SINGLE PART: D4653-043/-1/-5 REMOVED; RE-DESIGNED D4653-3/-9; D4654-3 O-RING WAS D4654-1; TOLERANCE CHANGE.		MB	12.09.24
REV.	DESCRIPTION		BY	DATE
DESIGN			DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN				
CHECKED			DRAWING NO.	REV. PA6
MFG. APPR.			D4653	SHEET 1 OF 6
APPROVED			TITLE	SCALE
DE APPR.			VENT MANIFOLD ASSY	NTS
DATE	12.09.24	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>		



SECTION B-B
SCALE 2X, 2 PL



SECTION A-A



PA6

D4653-3 COLLAR

NOTES:

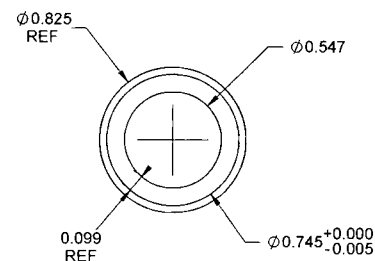
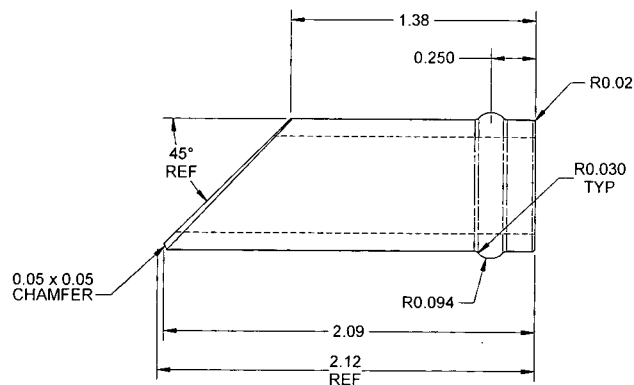
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6R
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.24 lbs

PRELIMINARY ISSUE

12.09.24

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PA6
MFG. APPR.		D4653	SHEET 3 OF 6
APPROVED		TITLE	SCALE
DE APPR.		VENT MANIFOLD ASSY	NTS
DATE	12.09.24	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

91369



D4653-7 LARGE FITTING

NOTES:

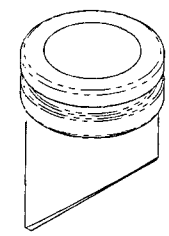
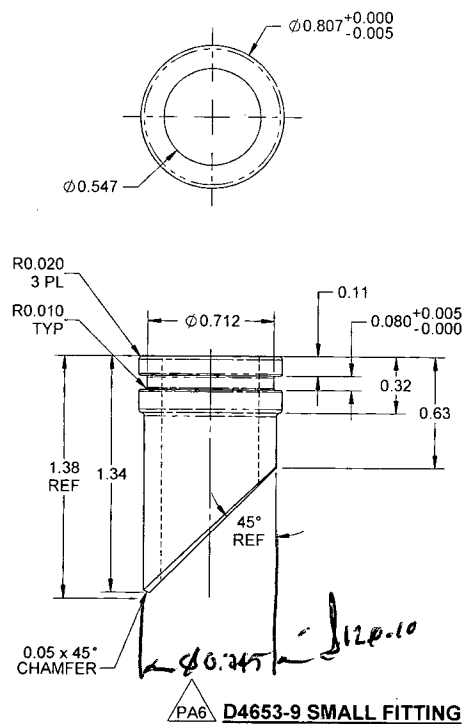
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6R
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.04 lbs

PRELIMINARY ISSUE

12.09.24

DESIGN		DART AEROSPACE LTD
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. D4653
MFG. APPR.		REV. PA6 SHEET 4 OF 6
APPROVED		TITLE VENT MANIFOLD ASSY
DE APPR.		SCALE NTS
DATE	12.09.24	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

91367



PA6 D4653-9 SMALL FITTING

NOTES:

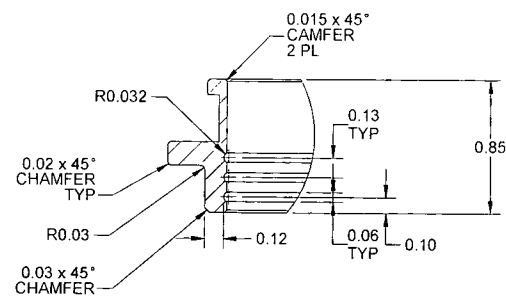
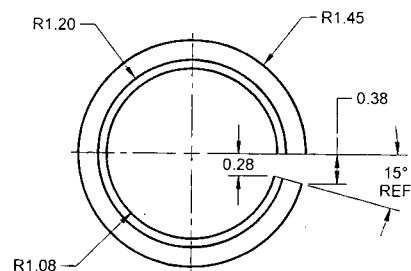
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6R
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs

PRELIMINARY ISSUE

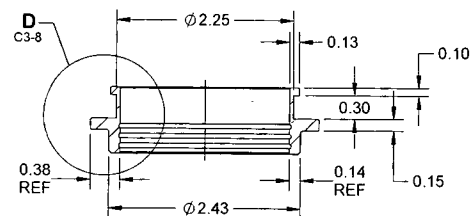
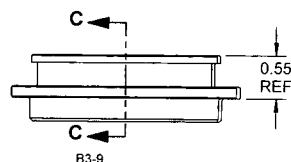
12.09.24

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PA6
MFG. APPR.		D4653	SHEET 5 OF 6
APPROVED		TITLE	SCALE
DE APPR.		VENT MANIFOLD ASSY	NTS
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91369



DETAIL D C4-9
SCALE 2X



SECTION C-C C6-9

D4653-11 CLAMP

NOTES:

- 1) MATERIAL: DELRIN II 150E OR ACETRON GP ACETAL
REF DART SPEC M-DELIN-B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.032 lbs

PRELIMINARY ISSUE

12.09.24

DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. PA6
MFG. APPR.		D4653	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		VENT MANIFOLD ASSY	NTS
DATE	12.09.24	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

DART AEROSPACE LTD		Work Order: 91369
Description: Small fitting		Part Number: A4653-9
Inspection Dwg: A4653 Rev: PA6		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø .807	+1.000/- .005	.804	/		SA-9	Vern
Ø .547	+1.006/- .001	.553	/			
Ø .712	± .010	.711	/			
.11	± .030	.107	/			
.080	+1.005/- .000	.081	/			
.32	± .030	.320	/			
.63	± .030	.635	/			
45° REF	± .5°	45°	/			
.05 X 45°	± .030	.02 X 45°	/			
1.34	± .030	1.344	/			
1.38	± .030	1.380	/			
R .010	± .010	R .01	/			
R .020	± .010	R .02	/			
.745	+1.000/- .005	.743	/			

Measured by: DAS 13	Audited by: Smb	Preliminary Approval:
Date: 12/10/10	Date: 12.10.11	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15

Receiving Report

Date: 11/2/4 Batch No: M116808
 Supplier: FHYSSKRUON Dart P/O: 13353

Packing Slip: Yes ☒ No ☐ Release Note Attached: Yes ☒ No ☐ N/A ☐
 Invoice: Yes ☐ No ☒ Waybill Attached: Yes ☒ No ☐ N/A ☐
 Receipt: Cash ☐ Cr ☒ Shipment Complete: Yes ☐ No ☒ N/A ☐
 QC6 Inspection ☒ N/A ☐
 Work Order 11/02/00 N/A ☒

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments
<u>M7075T-773A-1.00</u>		<u>24</u>	<u>0</u>	<u>0</u>	<u>24</u>	

Initials of receiver (if shipment OK) Level 12 [Signature]

Production/Admin: 11/2/4
 Date [Signature]
 Received/Costing [Signature]
 Initial [Signature]

Location _____

Purchase Order Receipt Listing

Page 1 of 1

Friday, February 04, 2011 1:23:48 PM

All amounts are calculated in domestic currency.

All Vendors PO ID PO13393 Receipt Dates from 2/4/2011 to 2/4/2011 All Line Item Types
All Item ID/GL/WOs All Rec. Employees All Currencies
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID/Vendor Name VC-COP001 Thyssenkrupp Materials CA Ltd											
PO13393	1		M174R0.750	f	2/4/2011	2/4/2011	24.0000	\$4.73	0.0000	0	\$113.40
CAD	No		17-4 round bar .750	f	24.0000	DESJ02		\$113.40	0.0000	0	
			116808								
	2		M6061T6B1.000X04.000	f	2/4/2011	2/4/2011	12.0000	\$10.27	0.0000	0	\$123.20
	No		6061-T6 Bar 1.00 x 4.00	f	12.0000	DESJ02		\$123.20	0.0000	0	
			116808								
	3		M6061T6R0.875	f	2/4/2011	2/4/2011	12.0000	\$2.08	0.0000	0	\$25.00
	No		6061-T6 Round Bar .875"	f	12.0000	DESJ02		\$25.00	0.0000	0	
			116808								
	4		M6061T6R3.500	f	2/4/2011	2/4/2011	6.0000	\$26.03	0.0000	0	\$156.20
	No		6061 RD bar 3.50	f	6.0000	DESJ02		\$156.20	0.0000	0	
			116808								
	5		M6061T6S.250	sf	2/4/2011	2/4/2011	32.0000	\$11.25	0.0000	0	\$359.90
	No		6061T6 SHEET .250	sf	32.0000	DESJ02		\$359.90	0.0000	0	
			116808								
	7		M304B0.750X2.500	f	2/4/2011	2/4/2011	12.0000	\$24.58	0.0000	0	\$295.00
	No		304 BAR .750 X 2.50 f		12.0000	DESJ02		\$295.00	0.0000	0	
			116808								
	8		M304B0.250X4.000	f	2/4/2011	2/4/2011	12.0000	\$8.37	0.0000	0	\$100.45
	No		304 BAR .250 x 4.00 f		12.0000	DESJ02		\$100.45	0.0000	0	
			116808								

Total Received Quantity: 110.0000
Total Qty to Inspect (PO U/M): 0.0000
Total Reject Quantity: 0.0000
Total Receipt Value: \$1,173.15
Total Balance Due Quantity: 0.0000

B I L L O F L A D I N G

No: PEC 694915

Ship From:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 9057389033

Ship Date 03Feb11 at 8:00 From PE
Probill T151402
Via APEXMOTOR-PEC
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp TRINA VINCE (905-532-1365)
Sold To: (20115)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7

Ship To: (1)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Tel: 613-632-9577 Fax: 613-632-1053

B I L L O F L A D I N G - REPRINT

1) Our Order PEC-297363- 1 Your PO # 13393

Part # Rel # CHANTAL
STAINLESS STEEL ROUND BAR 17-4 STAINLESS
.750" DIA X 144.0000"

Heat Number	Tag No	Quantity	PCS	Wt LB
153378	160511	24 FT	2	

MTR

2) Our Order PEC-297363- 2 Your PO # 13393

Part # Rel # CHANTAL
ALUMINUM FLAT BAR 6061-T6511
1.00" x 4.00" X 144.0000"

Heat Number	Tag No	Quantity	PCS	Wt LB
201016074	160512	12 FT	1	

MTR

3) Our Order PEC-297363- 3 Your PO # 13393

Part # Rel # CHANTAL
ALUMINUM ROUND BAR 6061-T6511
.875" DIA X 144.0000"

Heat Number	Tag No	Quantity	PCS	Wt LB
201012381	160513	12 FT	1	

MTR

4) Our Order PEC-297363- 4 Your PO # 13393

Part # Rel # CHANTAL
ALUMINUM ROUND BAR 6061-T6511
3.50" DIA X 72.0000"

Heat Number	Tag No	Quantity	PCS	Wt LB
201010162	160818	6 FT	1	

MTR

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.
ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY.
RETOUR DE MARCHANDISES AVEC NOTRE NUMÉRO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM ROUND BAR 6061-T6511

.875" DIA X 144.0000"

PART NO.

PO/Rel 13393

/CHANTAL

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

Certificate of Mill Test Results

BL PEC-694915-003

3Feb11

Pg 1/1



SERVICE CENTER METALS

5850 Quality Way

Prince George, VA 23875

CERTIFIED INSPECTION REPORT AND TEST RESULTS FOR EXTRUDED PRODUCTS

802911

OUR ORDER NUMBER	ITEM
114947	4

BILL TO

ThyssenKrupp Materials NA

SHIP TO

ThyssenKrupp Materials NA PEC

MANIFEST NUMBER

115827

CUSTOMER PO

PEC-224513

CUSTOMER PART NUMBER

RD0004

DIE NUMBER

RD0004

ALLOY / TEMPER

6061-T6511

DESCRIPTION

ROD .875 +/- .004

DATE OF SHIPMENT

10/1/2010

SALESPERSON

David Schroeder

CERTIFICATION

ASTM-B221-08 StencilContinuous

SPECIFICATION

AMS-QQA-200/B

Quantity Certified 526 lbs 62pcs

We hereby certify that the material covered by this report has been inspected in accordance with the most recent certification revision, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material met the composition limits and had the mechanical properties shown. SCM extrusions are manufactured in the USA from ingot melted and cast in the United States or Canada.

Items produced and certified as 6061-T6511 also meet the requirements of 6061-T6

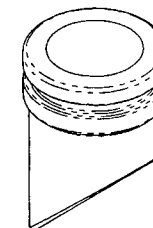
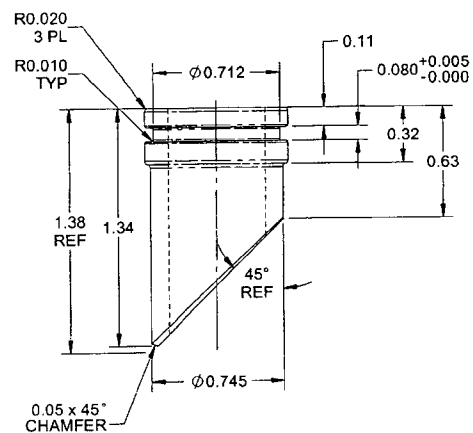
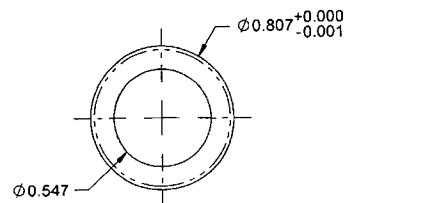
Mechanical Properties

Test No.	Lot No.	Test Date	Ultimate Tensile Strength (KSI)	Yield Strength (KSI)	Percent Elongation
1	201012381	09/29/10	49.2	46.5	13.9
2	201012381	09/29/10	49.3	46.5	17.1
3	201012381	09/29/10	50.4	47.5	19.4

Chemical Composition for Alloy 6061

Alloy		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Other	Each	Total	Al	Melted In
6061	Max	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.15		Remainder	
	Min	0.40	-	0.15	-	0.8	0.04	-	-	-	-	-		

Canada



D4653-9 SMALL FITTING

RELEASED
2012-11-05
JWP

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6R
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs

DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4653	SHEET 5 OF 6
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	VENT MANIFOLD ASSY	NTS
DATE	12.07.25	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESSED CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCE TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	